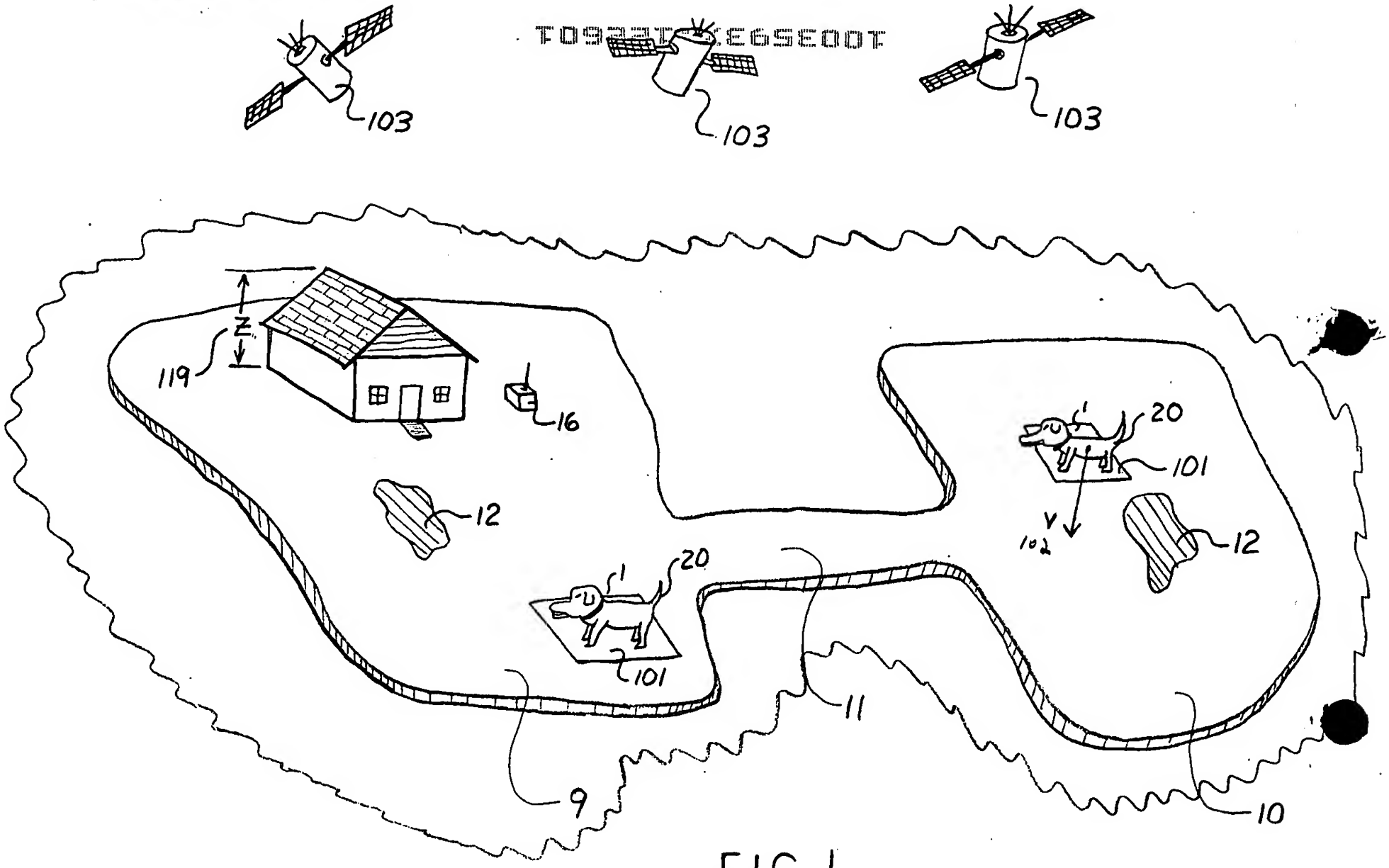


FIG. 1

Approved: 2/25/2005

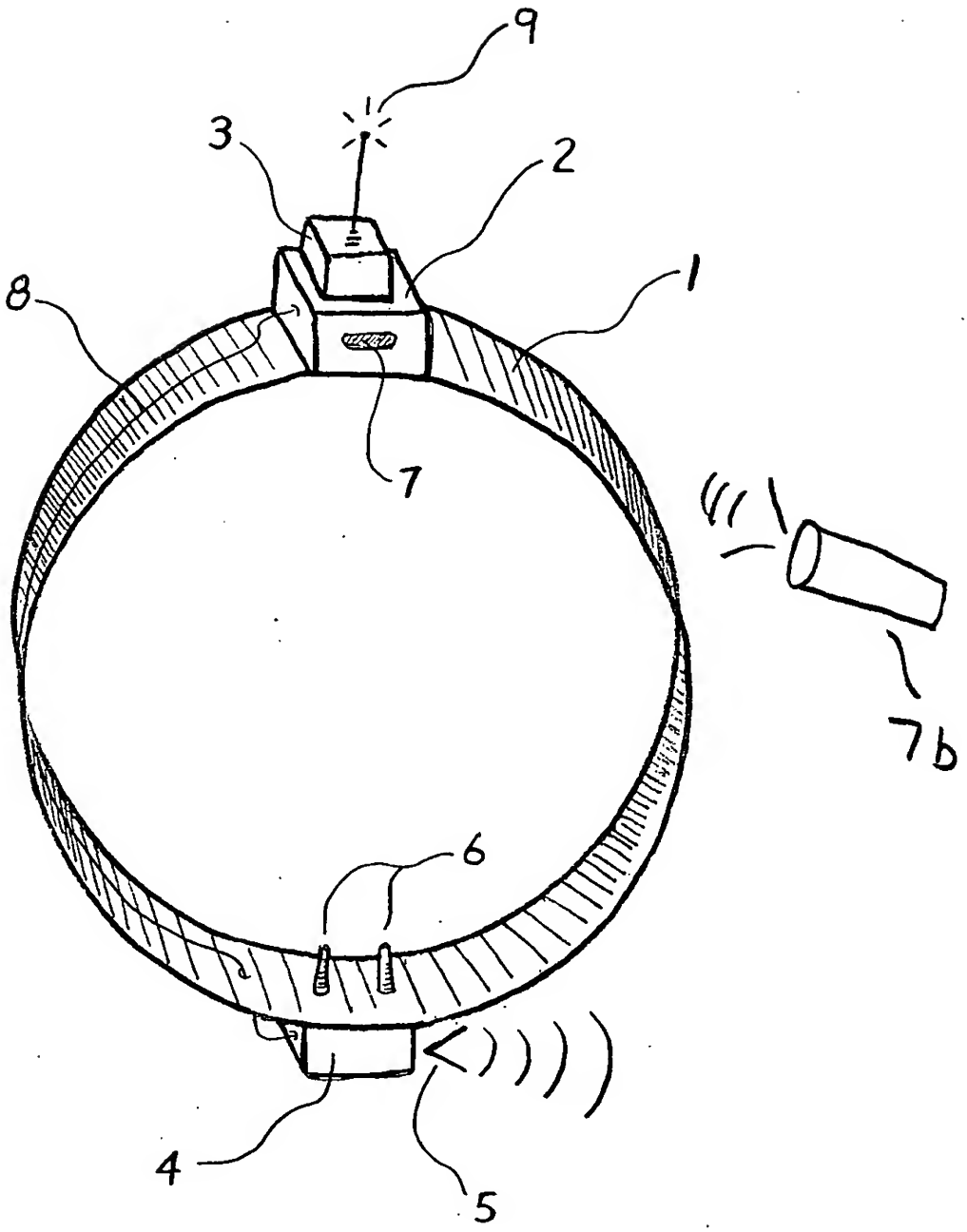
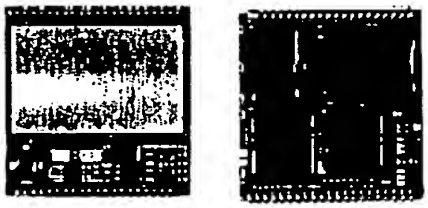


FIG. 2

Document Classification

BLANK

FIG 3



●Sensor positions

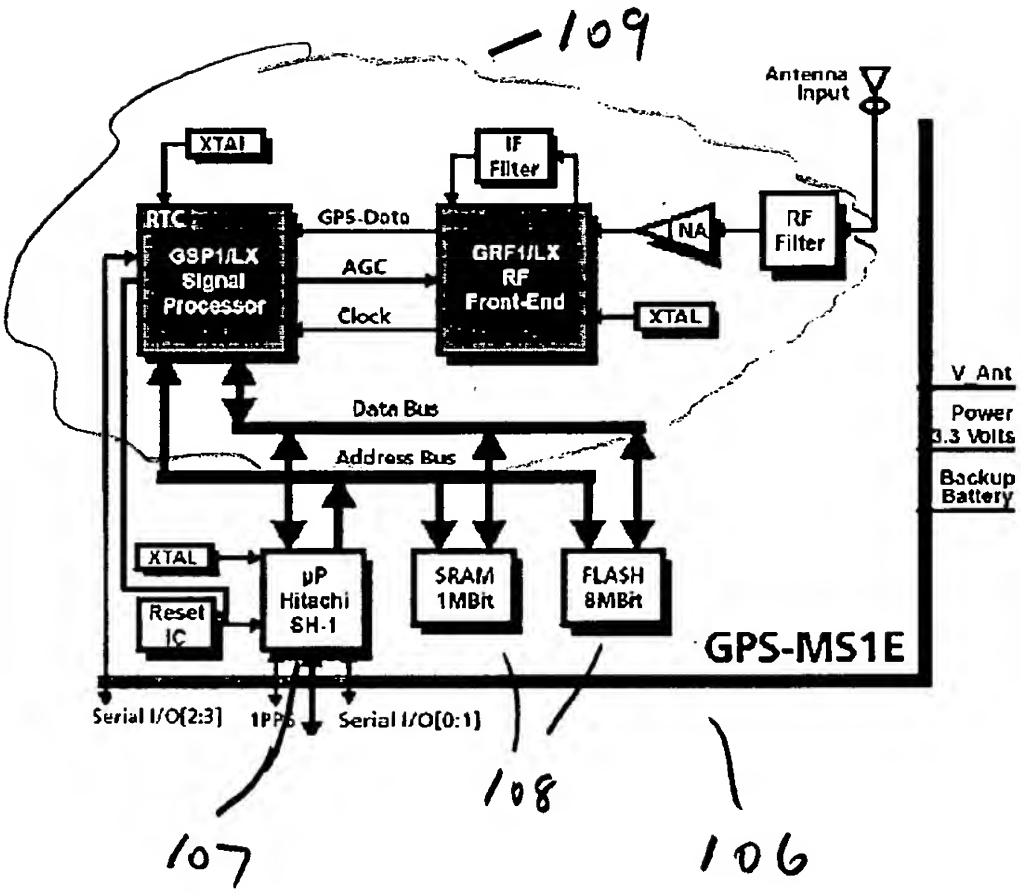
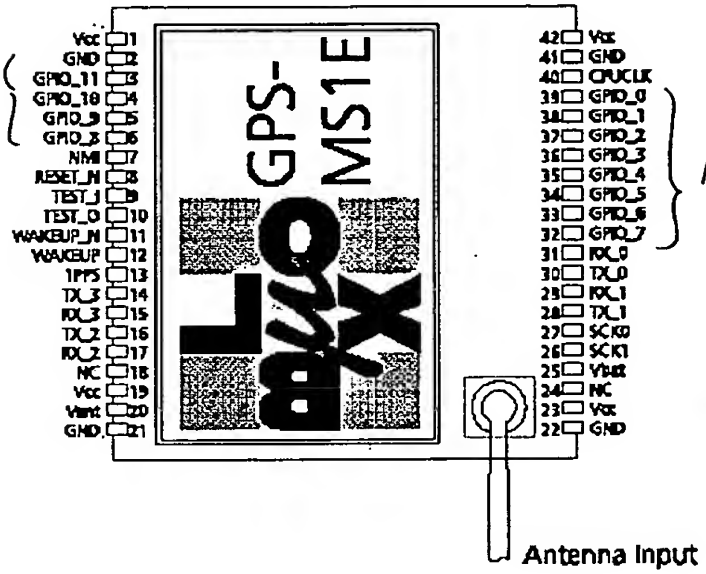


Figure 3
μ–BLOX programmer

6.2 Pin Description

Figure 2 shows the pin identification



~~Figure 4~~
μ–BLOX pin-out configuration for the GPS-MS1E

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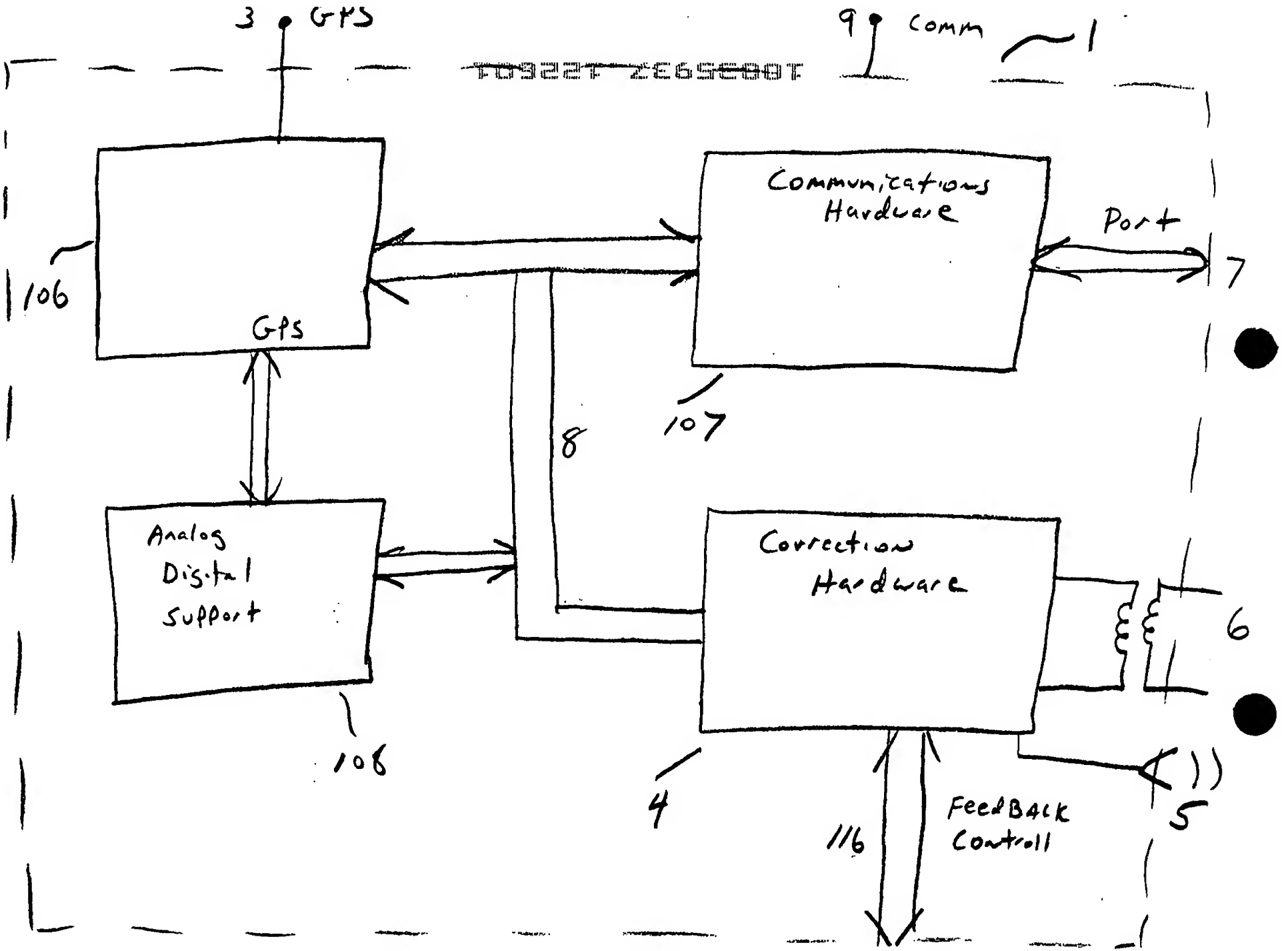

3
GPS
9
Comm
1
106
GPS
Communications Hardware
Port
7
8
107
Analog Digital Support
Correction Hardware
6
106
4
116
FeedBack Controll
5

Communications:

The GPS coordinates at command can be transmitted in many different possible ways. Three of the possible ways included here but not limited to are:

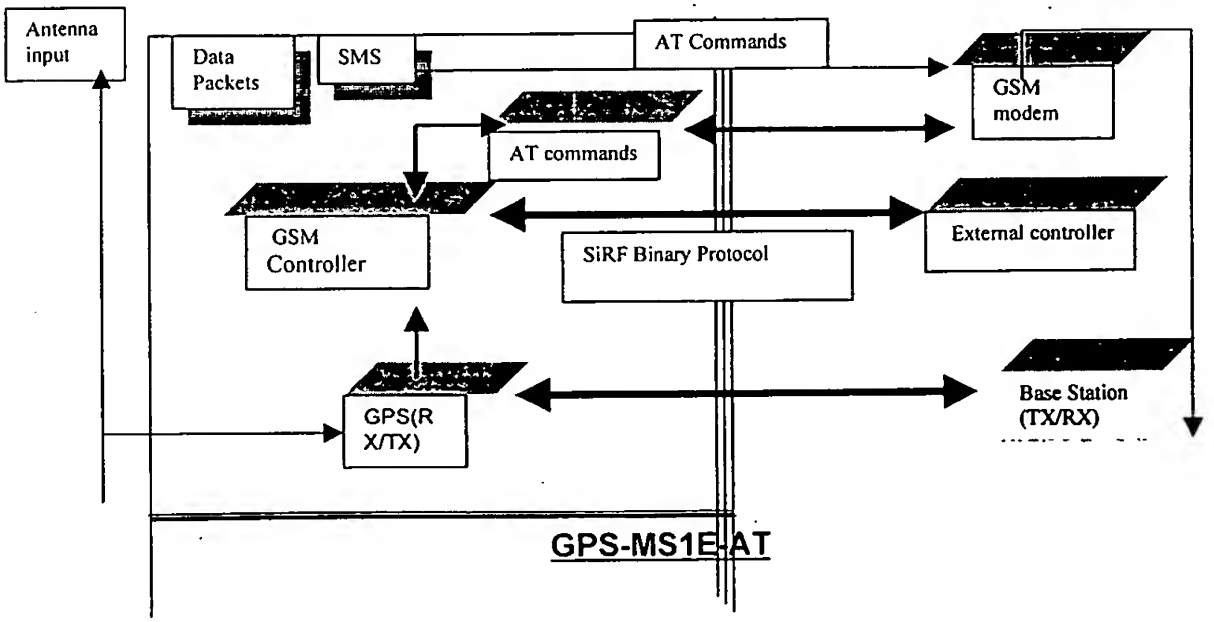
- GPS Receiver with integrated GSM Control Software
- Employing the TDMA Technology
- Employing the CDMA Technology

A) GPS Receiver with integrated GSM Control Software

Overview

The setup requires a GPS receiver (GPS-MS1E-AT), a GSM modem supporting AT interface (GSM 07.05,07.07) and an external controller. The controller reads positions from the GPS receiver and controls the modem. Incorporating the control of the GSM modem into a GPS receiver spares the extra processor, which simplifies the design and saves cost. Below shows the schematic of the communication system.

u-Blox offers an integrated control system for GSM modems with the AT command interface for GPS receivers. This system is designed for autonomous operation. An external controller is not required, however, it can be used for enhanced functionality.



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Pagent-Vesson

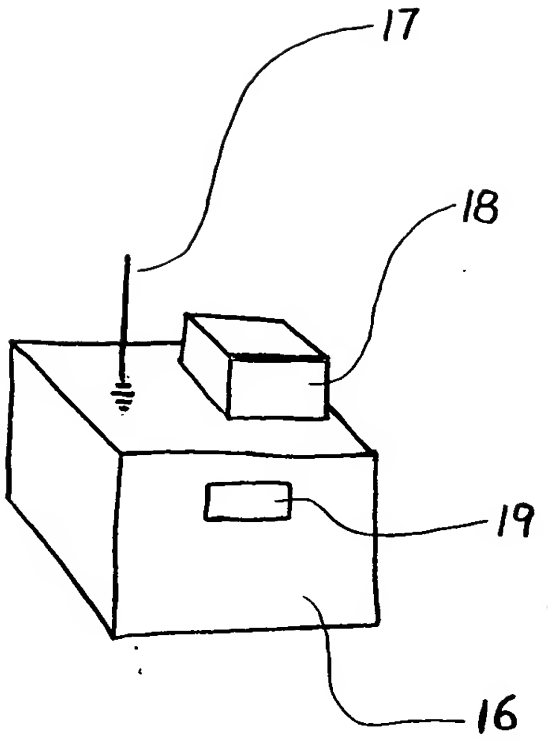


FIG. 6

Exhibit 2 Page 4 of 5

FIG.6A

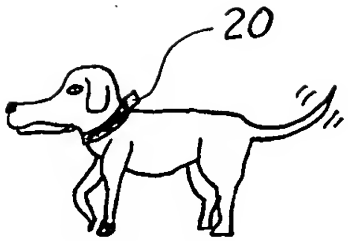


FIG.6B

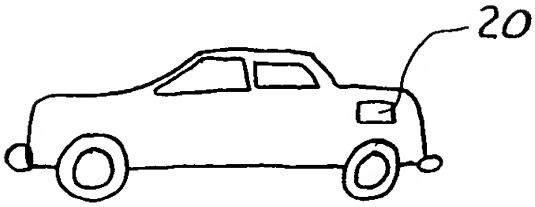


FIG.6C

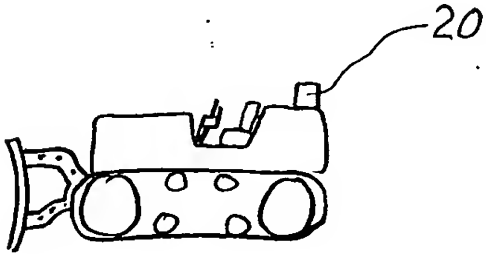


FIG.6D

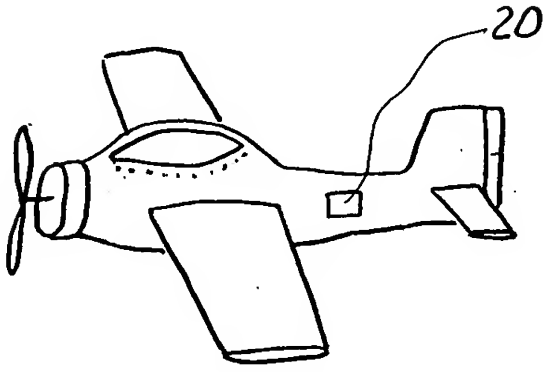
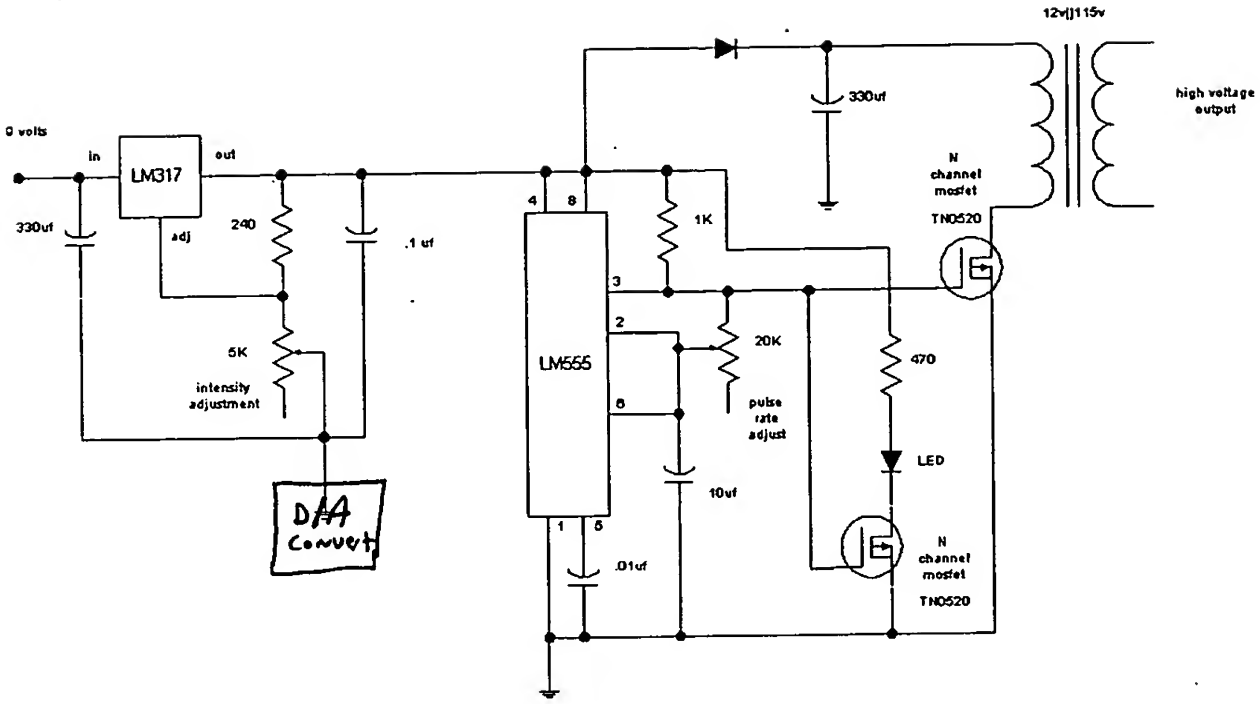
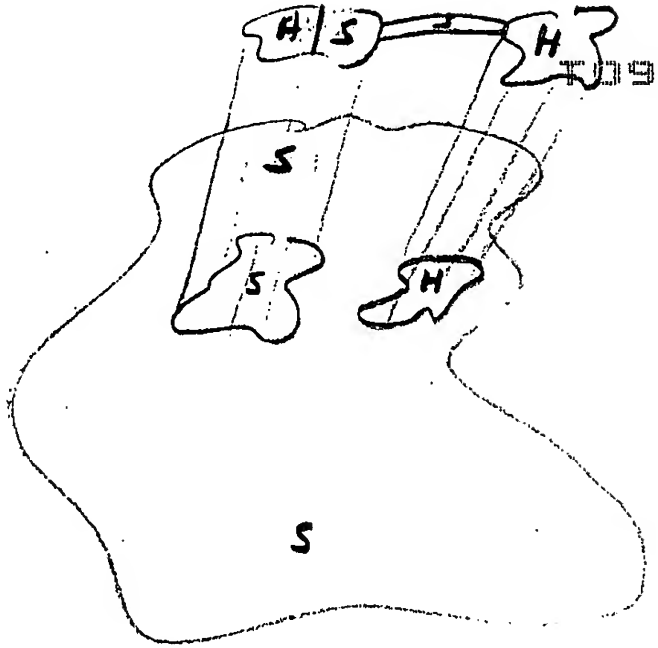


FIG.6E



PATENT 2,250,004


H
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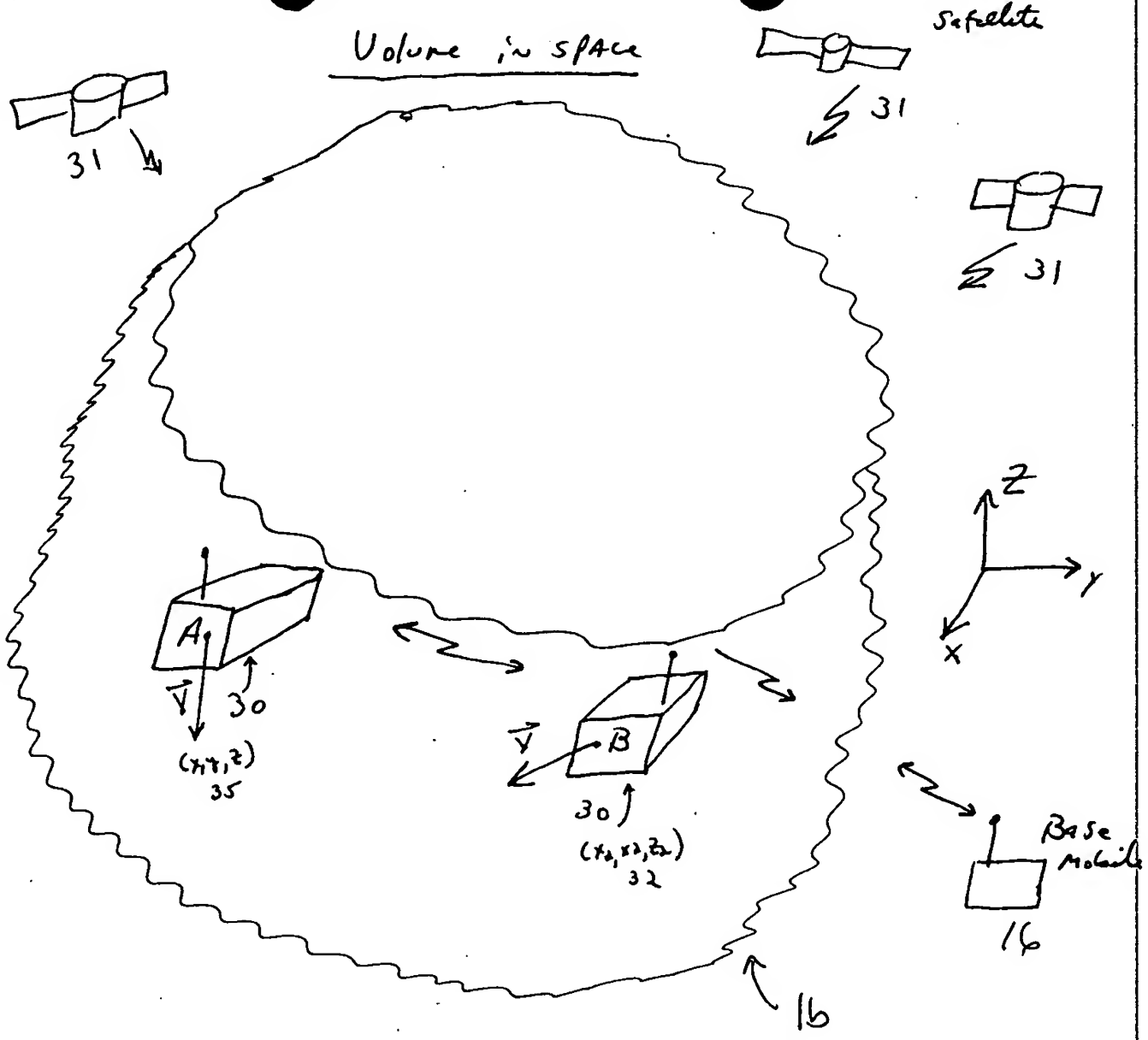
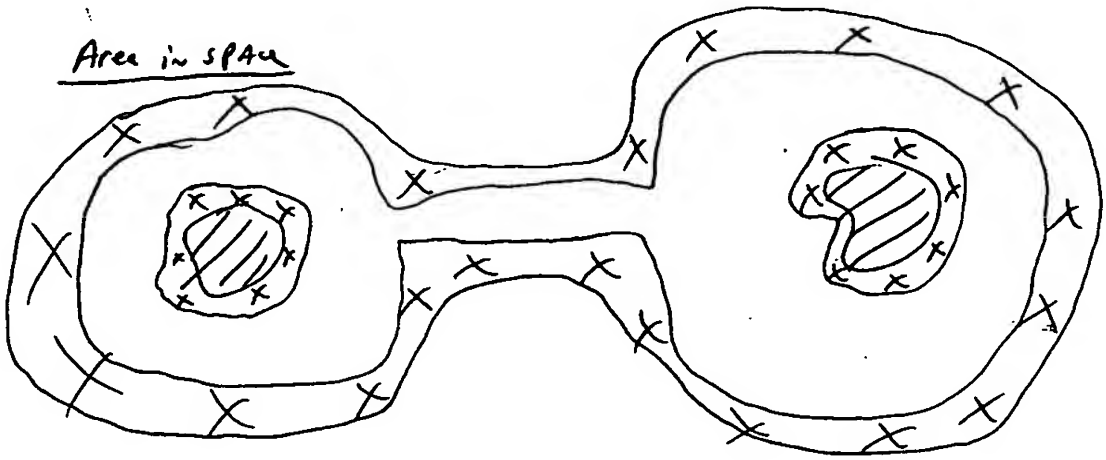
FRANCE TELECOM

Volume in space



Area in space



X hysteresis zone

/// exclude zone

□ safe zone

FIG. 11

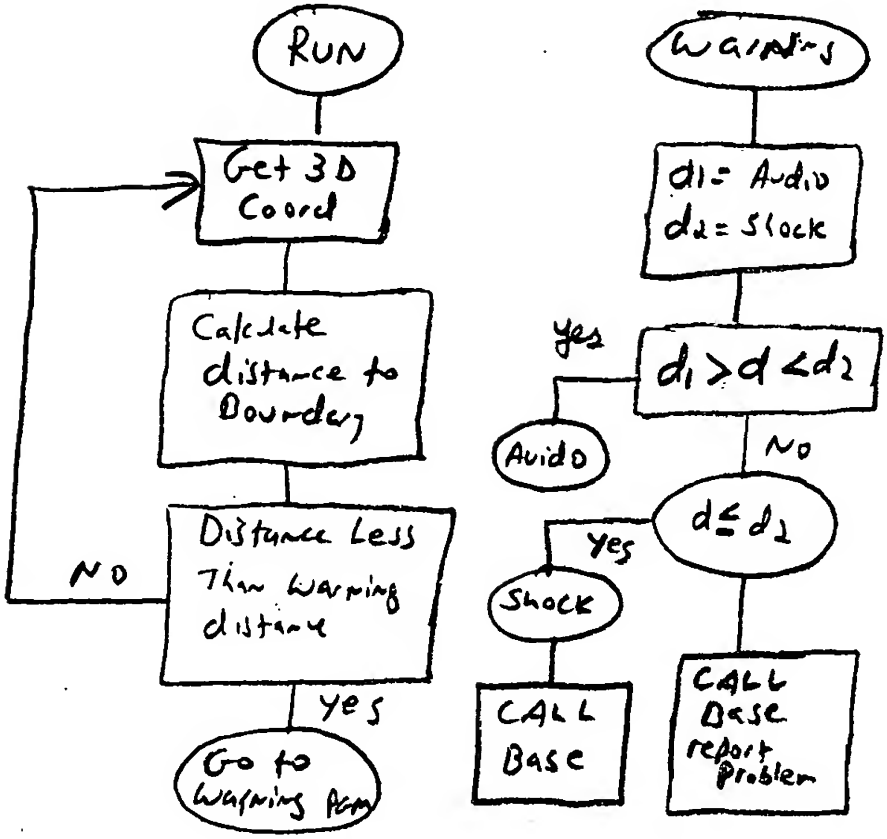
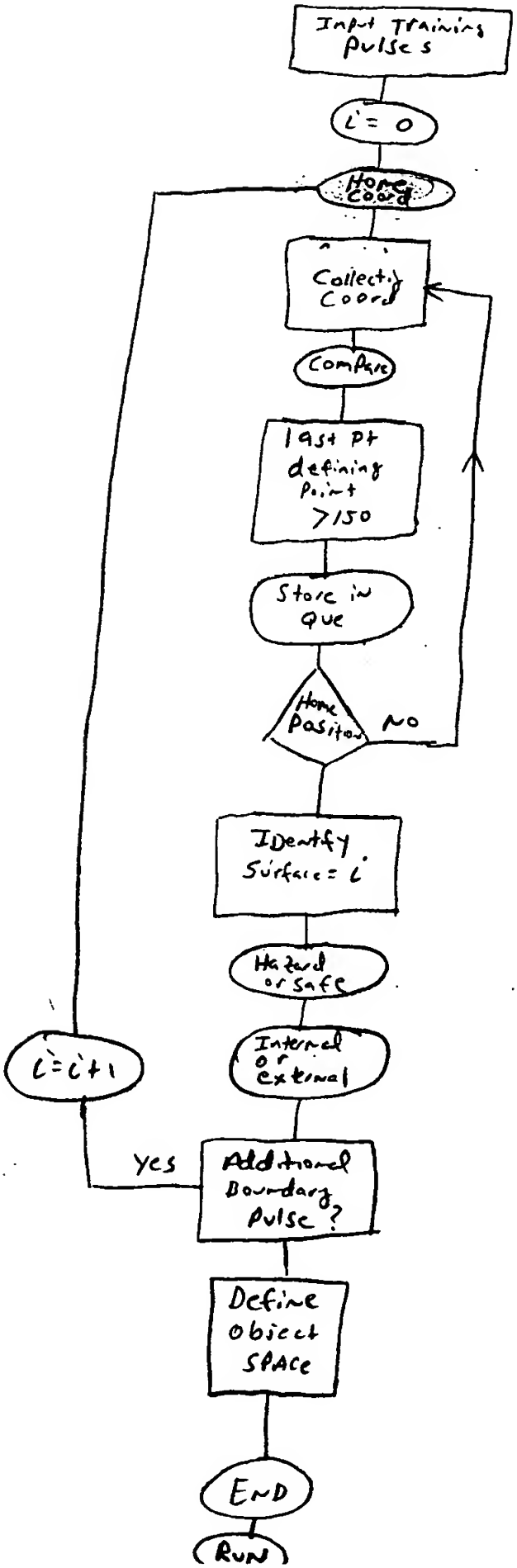
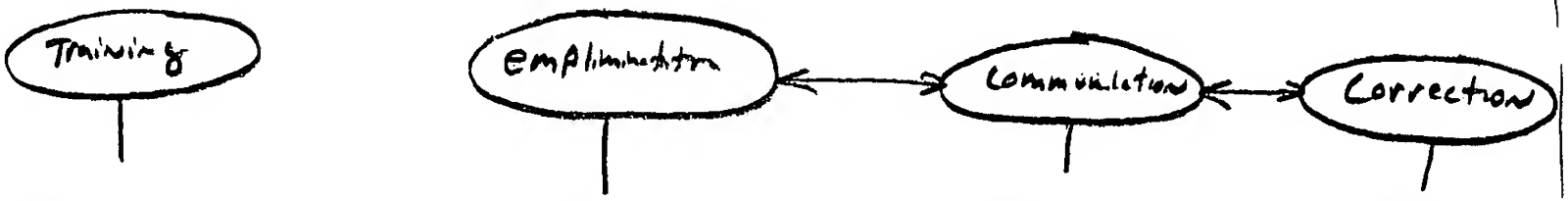

RUN
Get 3D Coord
Calculate distance to Boundary
Distance Less Than Warning distance
NO
yes
Go to Warning Pgm
WARNING
d1 = Audio
d2 = Shock
yes
d1 > d < d2
Avoid
NO
d ≤ d2
yes
Shock
CALL Base
CALL Base report Problem

Fig 12


Input Training Pulses
i = 0
Home Coord
Collect Coord
Compare
last pt defining Point >150
Store in que
Home Positon
no
IDentify Surface = i
Hazard or Safe
Internal or external
i = i+1
yes
Additional Boundary Pulse?
Define object SPACE
END
RUN



Defines Boundary

Defines 2D-3D

Defines Sub Volume

Defines secure/hazard

Program module

Defines Digital filter

Defines Hysteresis Zone

Defines Collar-Base comm

Define Protocall

Define Collar to Collar Comm

Defines digital addresses

Defines method of Correction

Adjusts Correction Parameters